

fw



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/743,004	12/29/2000	Mikio Iwamura	15689.63	3051
22913	7590	03/09/2006	EXAMINER	
WORKMAN NYDEGGER (F/K/A WORKMAN NYDEGGER & SEELEY) 60 EAST SOUTH TEMPLE 1000 EAGLE GATE TOWER SALT LAKE CITY, UT 84111			RAMOS FELICIANO, ELISEO	
			ART UNIT	PAPER NUMBER
			2687	

DATE MAILED: 03/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

DETAILED ACTION

Information Disclosure Statement

1. The references listed in the Information Disclosure Statement filed on January 10, 2006 have been considered by the examiner (see attached PTO-1449 or PTO/SB/08A and 08B forms).

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. **Claims 3, 9, 10, and 60** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
4. **Claims 3, 9, 10, and 60** recite the limitation "prior searching". It is not clear: prior to what? For examination on the merits the claims will be interpreted as best understood.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. **Claims 9, 12, 50-51 and 60-64** are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe et al. (Non-Patent Literature document cited as document number 2 in IDS filed on June 02, 2005: B-259 Base Station Code Assignment for A CDMA/TDD System, Page 259.

Art Unit: 2687

1995 IEICE (the Institute of Electronics, Information and Communication Engineers)

Communication Society Convention) in view of Hamabe (US Patent Number 5,603,082).

Regarding **claim 9**, Watanabe et al. discloses a method (page 2, line 18 to page 4, line 4) of searching for a neighboring cell (page 3, line 18) in a mobile communications system allowing a mobile station communicating with a plurality of base stations (Figure 2) to decide a sector the mobile station waits for or communicates with, by using grouped channel identifiers (codes) sent from sectors to the mobile station, the method characterized by including the steps of:

assigning (allocating) channel identifiers (for example: codes A, B,...H) belonging to a same group (for example: group 0) to the sectors within a same base station (page 3, lines 6-11); and

"prior" searching (scan) for other channel identifiers in the same group as the channel identifier of a sector already-captured by the mobile station (it is decided that the mobile station resides in H within group 0; therefore, "already-captured" H – page 3, lines 12-18).

However, Watanabe et al. fails to specify the sectors are within a same base station as defined by applicant.

In the same field of endeavor, Hamabe discloses a method of searching for a neighboring cell in a mobile communications system wherein the base stations are divided in sectors and each sector is assigned a channel identifiers (for example: codes 13-18 to sectors 33a-33f within base station 13 – column 7, lines 56-67 and Figure 4). An advantage of Hamabe's sectorized base station is better frequency reuse and increased service capacity.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Watanabe et al. such that sectors are within a same base station for the advantage of better frequency reuse and increased service capacity.

As to **claim 12**, it is the corresponding system claim of method claim 9; therefore, same rejection explained above is applied.

Regarding **claims 50-51 and 63-64**, Watanabe et al. and Hamabe disclose everything claimed as applied above (see claims 9 and 12). In addition, Watanabe et al. discloses that the channel identifier consists of a spreading code or a carrier frequency; and the channel identifier is included in a per channel signal (page 3, lines 2, and 19-23).

Regarding **claim 60**, Watanabe et al. discloses means for recording the group of the channel identifier; means for receiving the channel identifier from the base station; and means for "prior" searching for other channel identifiers in a same group as the channel identifier received by said receiving means belongs to, as explained for claims 9 and 12 above, explanation that is incorporated by reference.

Regarding **claims 61-62**, Watanabe et al. and Hamabe disclose everything claimed as applied above (see claims 9 and 12). In addition, Watanabe et al. discloses that the channel identifier consists of a spreading code or a carrier frequency; and the channel identifier is included in a per channel signal (page 3, lines 2, and 19-23).

7. **Claims 3-4, 10, 38, 34, and 58-59** are rejected under 35 U.S.C. 103(a) as being unpatentable over Hamabe (US Patent Number 5,603,082) in view of Watanabe et al. (Non-Patent Literature document cited as document number 2 in IDS filed on June 02, 2005: B-259 Base Station Code Assignment for A CDMA/TDD System; Page 259. 1995 IEICE (the Institute

Art Unit: 2687

of Electronics, Information and Communication Engineers) Communication Society Convention).

Regarding **claim 3**, Hamabe discloses a mobile communications system (Figure 1) including a mobile station (21) that communicates with a plurality of base stations (11-13), and decides sectors the mobile station waits for or communicates with by using grouped channel identifiers (for example, group 1: slots 1-6; group 2: slots 7-12; group 3: slots 13-18) sent from sectors (at the BS) to the mobile station,

wherein said mobile communications system assigns channel identifiers belonging to a same group (for example, group 1: slots 1-6 are assigned to BS 11) to the sectors in a same base station. (See column 7, line 55 to column 8, line 20; column 9, lines 41-55).

Hanabe fails to disclose: means for recording the group of the channel identifier; means for receiving the channel identifier from the base station; and means for "prior" searching for other channel identifiers in a same group as the channel identifier received by said receiving means belongs to, as claimed.

In the same field of endeavor, Watanabe et al. discloses means for recording the group of the channel identifier; means for receiving the channel identifier from the base station; and means for "prior" searching for other channel identifiers in a same group as the channel identifier received by said receiving means belongs to, as explained for claims 9 and 12 above, explanation that is incorporated by reference.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Hanabe as claimed for the advantage of better frequency reuse and increased service capacity.

Regarding **claim 4**, Hamabe and Watanabe et al. disclose everything claimed as applied above (see *claim 3*). In addition, Hamabe discloses that the system further includes assigning contiguous base stations channel identifiers belonging to other groups (for example, group 2: slots 7-12 assigned to BS 12 contiguous to BS 11). (See column 7, lines 55-67).

Regarding **claim 38 and 43**, Hamabe discloses everything claimed as applied above (see *claim 3*). In addition, the channel identifier consists of a spreading code or a carrier frequency (column 1, line 35: Hamabe's channel is carrier frequency; therefore,). The channel identifier is included in a perch channel (control channel) signal (column 5, lines 64-67). In addition, Watanabe et al. discloses that the channel identifier consists of a spreading code or a carrier frequency; and the channel identifier is included in a perch channel signal (page 3, lines 2, and 19-23).

Regarding **claim 10**, Hamabe discloses a mobile communications system (Figure 1) allowing the mobile station (21) communicating with a plurality of base stations (11-13) to decide a sector the mobile station waits for or communicates with, by using grouped channel identifiers (for example, group 1: slots 1-6; group 2: slots 7-12; group 3: slots 13-18) sent from sectors (at the BS) to the mobile station, including:

means for (inherent) assigning channel identifiers belonging to a same group (for example, group 1: slots 1-6 are assigned to BS 11) to the sectors within a same base station. (See column 7, line 55 to column 8, line 20; column 10, lines 20-58; column 12, lines 1-33)

means for (inherent) sending from a base station (11) to a visiting mobile station (mobile station 21 is "visiting") a notification (identification signal) of any one of channel identifiers assigned to sectors of one of neighboring base stations, and/or a notification of a group number

Art Unit: 2687

to which the channel identifiers belong. (See column 9, lines 41-55; column 10, lines 20-58; column 12, lines 1-33).

Hanabe fails to disclose: means for recording the group of the channel identifier; means for receiving the channel identifier from the base station; and means for "prior" searching for other channel identifiers in a same group as the channel identifier received by said receiving means belongs to, as claimed.

In the same field of endeavor, Watanabe et al. discloses means for recording the group of the channel identifier; means for receiving the channel identifier from the base station; and means for "prior" searching for other channel identifiers in a same group as the channel identifier received by said receiving means belongs to, as explained for claims 9 and 12 above, explanation that is incorporated by reference.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Hanabe as claimed for the advantage of better frequency reuse and increased service capacity.

Regarding **claim 58-59**, Hamabe discloses everything claimed as applied above (see *claim 10*). In addition, the channel identifier consists of a spreading code or a carrier frequency (column 1, line 35: Hamabe's channel is carrier frequency; therefore,). The channel identifier is included in a perch channel (control channel) signal (column 5, lines 64-67). In addition, Watanabe et al. discloses that the channel identifier consists of a spreading code or a carrier frequency; and the channel identifier is included in a perch channel signal (page 3, lines 2, and 19-23).

Art Unit: 2687

8. **Claims 7, 11, 13, 39, 44, 56-57, and 65-66** are rejected under 35 U.S.C. 103(a) as being unpatentable over Hamabe (US Patent Number 5,603,082) in view of Taketsugu (US Patent Number 5,530,910).

Regarding **claim 7**, Hamabe discloses a method of searching for a neighboring cell utilizing information (identification signal containing channel identifier) sent from sectors (at BS 11-13) to a mobile station (21) in a mobile communications system (Figure 1) allowing the mobile station (21) communicating with a plurality of base stations (11-13) to decide a sector the mobile station waits for or communicates with, by using grouped channel identifiers (for example, group 1: slots 1-6; group 2: slots 7-12; group 3: slots 13-18) sent from sectors (at the BS) to the mobile station, including the steps of:

assigning channel identifiers belonging to a same group (for example, group 1: slots 1-6 are assigned to BS 11) to the sectors within a same base station. (See column 7, line 55 to column 8, line 20)

sending from a base station (11) to a visiting mobile station (mobile station 21 is “visiting”) a notification (identification signal) of any one of channel identifiers assigned to sectors of one of neighboring base stations, and/or a notification of a group number to which the channel identifiers belong. (See column 9, lines 41-55).

However, Hamabe fails to disclose that the channel identifier notified in the step of sending a notification is a channel identifier of a sector which belongs to the neighboring base station and to which the greatest number of the mobile stations make handover from a current sector as defined by applicant.

In the same field of endeavor, Taketsugu discloses that the channel identifier notified in the step of sending a notification is a channel identifier of a sector which belongs to the neighboring base station and to which the greatest number of the mobile stations make handover from a current sector (column 2, line 44 to column 4, line 34).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Hanabe as claimed for the advantage of more efficient handover candidate search.

Regarding **claim 39 and 44**, Hamabe discloses everything claimed as applied above (see *claim 3*). In addition, the channel identifier consists of a spreading code or a carrier frequency (column 1, line 35: Hamabe's channel is carrier frequency; therefore,). The channel identifier is included in a perch channel (control channel) signal (column 5, lines 64-67).

Regarding **claim 11**, Hamabe discloses a mobile communications system (Figure 1) allowing the mobile station (21) communicating with a plurality of base stations (11-13) to decide a sector the mobile station waits for or communicates with, by using grouped channel identifiers (for example, group 1: slots 1-6; group 2: slots 7-12; group 3: slots 13-18) sent from sectors (at the BS) to the mobile station, including:

means for (inherent) assigning channel identifiers belonging to a same group (for example, group 1: slots 1-6 are assigned to BS 11) to the sectors within a same base station. (See column 7, line 55 to column 8, line 20; column 10, lines 20-58; column 12, lines 1-33)

means for (inherent) sending from a base station (11) to a visiting mobile station (mobile station 21 is "visiting") a notification (identification signal) of any one of channel identifiers assigned to sectors of one of neighboring base stations, and/or a notification of a group number

Art Unit: 2687

to which the channel identifiers belong. (See column 9, lines 41-55; column 10, lines 20-58; column 12, lines 1-33).

However, Hamabe fails to disclose that the channel identifier notified in the step of sending a notification is a channel identifier of a sector which belongs to the neighboring base station and to which the greatest number of the mobile stations make handover from a current sector as defined by applicant.

In the same field of endeavor, Taketsugu discloses that the channel identifier notified in the step of sending a notification is a channel identifier of a sector which belongs to the neighboring base station and to which the greatest number of the mobile stations make handover from a current sector (column 2, line 44 to column 4, line 34).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Hamabe as claimed for the advantage of more efficient handover candidate search.

Regarding **claim 56-57**, Hamabe and Taketsugu disclose everything claimed as applied above (see *claim 11*). In addition, the channel identifier consists of a spreading code or a carrier frequency (column 1, line 35: Hamabe's channel is carrier frequency; therefore,). The channel identifier is included in a perch channel (control channel) signal (column 5, lines 64-67).

Regarding **claim 13**, Hamabe discloses a base station (11) in a mobile communications system (Figure 1) allowing the mobile station (21) communicating with a plurality of base stations (11-13) to decide a sector the mobile station waits for or communicates with, by using grouped channel identifiers (for example, group 1: slots 1-6; group 2: slots 7-12; group 3: slots 13-18) sent from sectors (at the BS) to the mobile station, including the steps of:

Art Unit: 2687

means for (inherent) assigning channel identifiers belonging to a same group (for example, group 1: slots 1-6 are assigned to BS 11) to the sectors within a same base station. (See column 7, line 55 to column 8, line 20; column 10, lines 20-58; column 12, lines 1-33)

means for (inherent) sending from a base station (11) to a visiting mobile station (mobile station 21 is “visiting”) a notification (identification signal) of any one of channel identifiers assigned to sectors of one of neighboring base stations, and/or a notification of a group number to which the channel identifiers belong. (See column 9, lines 41-55; column 10, lines 20-58; column 12, lines 1-33).

However, Hamabe fails to disclose that the channel identifier notified in the step of sending a notification is a channel identifier of a sector which belongs to the neighboring base station and to which the greatest number of the mobile stations make handover from a current sector as defined by applicant.

In the same field of endeavor, Taketsugu discloses that the channel identifier notified in the step of sending a notification is a channel identifier of a sector which belongs to the neighboring base station and to which the greatest number of the mobile stations make handover from a current sector (column 2, line 44 to column 4, line 34).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Hanabe as claimed for the advantage of more efficient handover candidate search.

Regarding **claim 65 and 66**, Hamabe and Taketsugu disclose everything claimed as applied above (see *claim 13*). In addition, the channel identifier consists of a spreading code or a

carrier frequency (column 1, line 35: Hamabe's channel is carrier frequency; therefore,). The channel identifier is included in a perch channel (control channel) signal (column 5, lines 64-67).

Response to Arguments

9. Applicant's amendment of the claims enlightened Examiner's new interpretation of the claims and made the claims clearly open to rejection based on new interpretation of the amended claims. Therefore, Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action.

10. Applicant's arguments filed December 15, 2005 have been fully considered but they are not persuasive.

11. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., that the present invention can dispense with synchronization between base stations – page 10, last paragraph of the arguments; an asynchronous system – page 11, first partial paragraph of the arguments) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

12. In response to applicant's argument that applied prior art and present invention are directed to different problems (page 11, last paragraph of the arguments) and that applied prior art discloses a different concept (page 12, first paragraph of the arguments), the fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985).

Art Unit: 2687

Conclusion

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

14. Any inquiry concerning this communication from the examiner should be directed to Eliseo Ramos-Feliciano whose telephone number is 571-272-7925. The examiner can normally be reached from 8:00 a.m. to 5:30 p.m. on 5-4/9 1st Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha Banks-Harold, can be reached on (571) 272-7905. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



ELISEO RAMOS-FELICIANO
PRIMARY EXAMINER

ERF/erf

March 3, 2006